

Activated Clotting Time (ACT) Assay Kit

(Coagulation Method)

A1507810

Storage: 2-8°C.

Introduction:

The time required for venous blood to completely clot after being drawn from the body is known as the clotting time. It serves as a screening test reflecting the activity of coagulation factors in the intrinsic coagulation pathway. When a kaolin-cephalin suspension is added to whole blood, kaolin fully activates coagulation factors XII and XI, thereby initiating the intrinsic coagulation system. Cephalin provides a rich catalytic surface for the coagulation reaction, promoting the clotting process and enhancing the sensitivity of the test. The measured blood clotting time under these conditions is referred to as the activated clotting time (ACT).

The activated clotting time (ACT) is one of the sensitive screening tests for the intrinsic coagulation system. This kit is primarily used for the determination of the activated clotting time in human and animal blood. It is intended for research use only and is not suitable for clinical diagnosis or other purposes.

Kit Contents

Product Code	Component	50T	Storage
A1507810	Kaolin-Cephalin Suspension	10 mL	2-8°C

Procedure:

1. Take two glass test tubes with an inner diameter of 8 mm and add 0.2 mL of kaolin-cephalin suspension to each.
2. Collect 1 mL of venous blood. Immediately remove the needle and gently deliver 0.5 mL of blood along the inner wall into each test tube. Mix immediately, start a stopwatch, and place the tubes in a 37 °C water bath.
3. Gently tilt each tube every 10 seconds and observe the fluidity of the blood until clotting occurs. Record the time required for blood to clot; this is the ACT.
4. Calculate the average clotting time of the two tubes as the final ACT value.

Reference Interval: (1.70 ± 0.76) minutes.

Notes:

1. All equipment used should be clean and dry. The inner diameter of the tubes must be fixed and consistent, as a larger inner diameter results in a longer clotting time.
2. Blood collection should be successful on the first attempt (completed within 30 seconds).

Use of a tourniquet is not recommended. Avoid contamination with tissue fluid or air, and prevent hemolysis of the specimen.

3. The water bath temperature should be controlled at 37 ± 0.5 °C. Temperatures either too high or too low can shorten the ACT, while excessively low temperatures will prolong the ACT.
4. When observing the endpoint, tilt the tube gently, each time at an angle of about 30°, to reduce the contact area between the blood and the tube wall. Observe the blood flow under bright light. The endpoint is defined as the initial stage of clotting, indicated by slowed blood flow or visible turbidity.
5. After heparin activation, the ACT should ideally be maintained between 360 and 450 seconds. Following heparin neutralization, the ACT should be less than 130 seconds.

